

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A roof covering comprising:
a roofing mat formed from fibers of a fiber material, the fibers having properties suitable for forming the roofing mat, the fibers coated with a sizing; and an asphalt-based coating material that coats the mat;
the sizing including a sulfur-containing material that bonds to the fiber material, the sulfur-containing material having sulfur groups that form cross-links with the asphalt;
wherein the tear strength of the roof covering is increased by at least about 5% as measured by ASTM D 1922 compared to the same roof covering without the sulfur-containing material in the sizing.
2. (Original) A roof covering according to claim 1 wherein the sulfur-containing material is a sulfide silane.
3. (Original) A roof covering according to claim 1 wherein the fiber material is glass.
4. (Cancelled)
5. (Previously presented) A roof covering according to claim 1 wherein the roof covering is a roofing shingle.
6. (Previously presented) A roof covering according to claim 1 wherein the tensile strength of the roofing mat is not decreased by more than about 2% compared to the same roofing mat without the sulfur-containing material in the sizing, and wherein the uniformity of fiber dispersion within the roofing mat is not significantly different compared to the same roofing mat without the sulfur-containing material in the sizing.

7. (Original) A roof covering according to claim 1 wherein the amount of the sulfur-containing material in the sizing is from about 1% to about 10% by weight of the solids in the sizing.

8. (Original) A roof covering according to claim 1 further comprising roofing granules embedded in a surface of the coating material.

9. (Currently amended) A roof covering comprising:
a roofing mat formed from fibers of a fiber material, the fibers coated with a sizing; and

a coating material consisting essentially of asphalt and filler that coats the mat, the coating material including consisting essentially of asphalt, filler, and elemental sulfur added to the coating material in an amount from about 0.1% to about 5% by weight of the coating material;

the sizing including a bonding material that bonds to the fiber material and that bonds to the sulfur; and

the sulfur forming cross-links with the asphalt;
wherein the tear strength of the roof covering is increased by at least about 5% as measured by ASTM D 1922 compared to the same roof covering without the bonding material in the sizing and the sulfur added to the coating material.

10. (Original) A roof covering according to claim 9 wherein the bonding material is a compound having first functional groups that bond to the fiber material and second functional groups that bond to the sulfur.

11. (Original) A roof covering according to claim 10 wherein the second functional groups of the compound include double bonds.

12. (Original) A roof covering according to claim 11 wherein the second functional groups are vinyl groups.

13. (Original) A roof covering according to claim 12 wherein the compound is a vinyl silane.

14. (Original) A roof covering according to claim 9 wherein the bonding material is a material that is bonded to the fiber material by grafting.

15. (Original) A roof covering according to claim 9 wherein the fiber material is glass.

16. (Cancelled)

17. (Previously presented) A roof covering according to claim 9 wherein the roof covering is a roofing shingle.

18. (Previously presented) A roof covering according to claim 9 wherein the tensile strength of the roofing mat is not decreased by more than about 2% compared to the same roofing mat without the bonding material in the sizing and the sulfur added to the coating material, and wherein the uniformity of fiber dispersion within the roofing mat is not significantly different compared to the same roofing mat without the bonding material in the sizing and the sulfur added to the coating material.

19. (Original) A roof covering according to claim 9 wherein the amount of the bonding material in the sizing is from about 1% to about 10% by weight of the solids in the sizing.

20. (Cancelled)

21. (Original) A roof covering according to claim 9 further comprising roofing granules embedded in a surface of the coating material.

22. (Previously presented) A roof covering according to claim 1 which has a tear strength of at least 1475 grams as measured by ASTM D 1922.

23. (Previously presented) A roof covering according to claim 9 which has a tear strength of at least 1475 grams as measured by ASTM D 1922.

24. (Cancelled)

25. (Previously presented) A roof covering according to claim 9 wherein the sulfur reacts with double bonds in the asphalt.

26. (Withdrawn) A method of producing a roof covering comprising:
producing fibers of a fiber material;
coating the fibers with a sizing;
forming a roofing mat from the fibers;
producing an asphalt-based coating material including asphalt and sulfur added to the asphalt; and then

coating the roofing mat with the asphalt-based coating material;
the sizing including a bonding material that bonds to the fiber material and that bonds to the sulfur; and
the sulfur forming cross-links with the asphalt;
wherein the tear strength of the roof covering is increased by at least about 5% as measured by ASTM D 1922 compared to the same roof covering without the bonding material in the sizing and the sulfur added to the asphalt.

27. (Withdrawn) A method according to claim 26 wherein the sulfur added to the asphalt is elemental sulfur.

28. (Previously presented) A roof covering according to claim 9 wherein the elemental sulfur is added in an amount from about 0.1% to about 2% by weight of the coating material.

29. (Previously presented) A roof covering according to claim 28 wherein the elemental sulfur is added in an amount from about 0.1% to about 0.8% by weight of the coating material.

30. (Previously presented) A roof covering according to claim 9 wherein the tear strength of the roof covering is increased by at least about 10% as measured by ASTM D 1922 compared to the same roof covering without the bonding material in the sizing and the sulfur added to the coating material.

31. (Previously presented) A roof covering according to claim 9 wherein the tear strength of the roof covering is increased by at least about 15%.